



# MANAGERIAL ACCOUNTING

**BRAUN • TIETZ**

6th Edition





# ACCOUNTING

IN THE HEADLINES

Bring Real Life to the Classroom with

[AccountingintheHeadlines.com](https://AccountingintheHeadlines.com) 

# ACCOUNTING

CASE TEMPLATE



Create and customize a case assignment  
in a few easy steps using

[AccountingCaseTemplate.com](https://AccountingCaseTemplate.com) 

## MORE FROM DR. WENDY TIETZ

**Caesars Palace** and **NEW Cheesecake Factory**  
**Serial Cases** are designed to engage students in Introductory  
Accounting courses by applying concepts to real-life businesses

Unparalleled author-written and author-tested resources provide the  
tools you need to create the class experience you want including:

[Learning Catalytics – Polling Questions](#)

[Solution Videos](#)

[Concept Videos](#)

[Lecture Support Tools](#)

[Directed Reading Guides](#)

*This page is intentionally left blank*

# MANAGERIAL ACCOUNTING



SIXTH EDITION

**Karen Wilken Braun, PhD, CPA, CGMA**

Case Western Reserve University

**Wendy M. Tietz, PhD, CPA, CGMA, CMA**

Kent State University



Please contact <https://support.pearson.com/getsupport/s> with any queries on this content.

**Cover Image:** Vlad\_Nikon/Shutterstock

Microsoft and/or its respective suppliers make no representations about the suitability of the information contained in the documents and related graphics published as part of the services for any purpose. All such documents and related graphics are provided “as is” without warranty of any kind. Microsoft and/or its respective suppliers hereby disclaim all warranties and conditions with regard to this information, including all warranties and conditions of merchantability, whether express, implied or statutory, fitness for a particular purpose, title and non-infringement. In no event shall Microsoft and/or its respective suppliers be liable for any special, indirect or consequential damages or any damages whatsoever resulting from loss of use, data or profits, whether in an action of contract, negligence or other tortious action, arising out of or in connection with the use or performance of information available from the services.

The documents and related graphics contained herein could include technical inaccuracies or typographical errors. Changes are periodically added to the information herein. Microsoft and/or its respective suppliers may make improvements and/or changes in the product(s) and/or the program(s) described herein at any time. Partial screen shots may be viewed in full within the software version specified.

Microsoft® and Windows® are registered trademarks of the Microsoft Corporation in the U.S.A. and other countries. This book is not sponsored or endorsed by or affiliated with the Microsoft Corporation.

Copyright © 2021, 2018, 2015 by Pearson Education, Inc. All Rights Reserved. Manufactured in the United States of America. This publication is protected by copyright, and permission should be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise. For information regarding permissions, request forms, and the appropriate contacts within the Pearson Education Global Rights and Permissions department, please visit [www.pearsoned.com/permissions/](http://www.pearsoned.com/permissions/).

Acknowledgments of third-party content appear on the appropriate page within the text.

PEARSON, ALWAYS LEARNING, and MYLAB are exclusive trademarks owned by Pearson Education, Inc. or its affiliates in the U.S. and/or other countries.

Unless otherwise indicated herein, any third-party trademarks, logos, or icons that may appear in this work are the property of their respective owners, and any references to third-party trademarks, logos, icons, or other trade dress are for demonstrative or descriptive purposes only. Such references are not intended to imply any sponsorship, endorsement, authorization, or promotion of Pearson’s products by the owners of such marks, or any relationship between the owner and Pearson Education, Inc., or its affiliates, authors, licensees, or distributors.

#### Library of Congress Cataloging-in-Publication Data

Names: Braun, Karen Wilken, author. | Tietz, Wendy M., author.

Title: Managerial accounting / Karen Wilken Braun, PhD, CPA, CGMA, Case Western Reserve University, Wendy M. Tietz, PhD, CPA, CGMA, CMA, Kent State University.

Description: Sixth edition. | New York, NY : Pearson Education. [2021] | Includes index. | Summary: “A managerial accounting text for college students, made to attract student attention and lay the groundwork for understanding of accounting”— Provided by publisher.

Identifiers: LCCN 2019020471 (print) | LCCN 2019981612 (ebook) | ISBN 9780135863916 | ISBN 9780135863879 | ISBN 9780135864180 (epub)

Subjects: LCSH: Managerial accounting.

Classification: LCC HF5657.4 .B36 2021 (print) | LCC HF5657.4 (ebook) | DDC 658.15/11—dc23

LC record available at <https://lcn.loc.gov/2019020471>

LC ebook record available at <https://lcn.loc.gov/2019981612>

ScoutAutomatedPrintCode



ISBN 10: 0-13-586391-0  
ISBN 13: 978-0-13-586391-6

# Brief Contents

1	Introduction to Managerial Accounting	1
2	Building Blocks of Managerial Accounting	68
3	Job Costing	132
4	Activity-Based Costing, Lean Operations, and the Costs of Quality	211
5	Process Costing	286
6	Cost Behavior	357
7	Cost-Volume-Profit Analysis	444
8	Relevant Costs for Short-Term Decisions	517
9	The Master Budget	591
10	Performance Evaluation	680
11	Standard Costs and Variances	760
12	Capital Investment Decisions and the Time Value of Money	827
13	Statement of Cash Flows	905
14	Financial Statement Analysis	975
15	Sustainability	1039
	Glossary/Index	I-1

# Contents

## 1 Introduction to Managerial Accounting 1

### What Is Managerial Accounting? 2

Managers' Three Primary Responsibilities .....	2
A Road Map: How Managerial Accounting Fits In .....	3
Differences Between Managerial Accounting and Financial Accounting .....	4

### What Role Do Management Accountants Play? 6

The Role of Management Accountants.....	6
The Skills Required of Management Accountants .....	7
Managerial Accounting Is Important to All Careers.....	8
Accounting within the Organizational Structure.....	9
Professional Associations .....	10
Average Salaries of Management Accountants .....	12
Professional Ethics .....	12
Examples of Ethical Dilemmas .....	14

### What Business Trends and Regulations Affect Management Accounting? 18

Data Analytics and Critical Thinking.....	18
Knowledge Economy.....	20
Globalization .....	20
Sustainability, Social Responsibility, and the Triple Bottom Line .....	20
The Sarbanes-Oxley Act of 2002.....	22

### Why and How Do Managers Use Data Analytics? 23

The Heart of Data Analytics .....	23
Benefits of Data Analytics .....	23
Data Analytics Process .....	24
Different Types of Data.....	25
Different Types of Analytics.....	26
Data Visualization .....	27
Summary.....	28

### What Are the Fundamental Excel Features? 28

Elements of an Excel Workbook.....	28
Selecting Cells .....	30
Formatting Cells .....	30
Navigating a Worksheet .....	31
Formulas and Relative Cell References .....	31
Functions and Specifying Data Ranges.....	33
End of Chapter .....	38

## 2 Building Blocks of Managerial Accounting 68

### What Are the Most Common Business Sectors and Their Activities? 69

Service, Merchandising, and Manufacturing Companies.....	69
Which Business Activities Make Up the Value Chain?.....	71
Coordinating Activities Across the Value Chain .....	72

### How Do Companies Define Cost? 74

Cost Objects, Direct Costs, and Indirect Costs .....	74
Costs for Internal Decision Making and External Financial Reporting .....	77
Merchandising Companies' Product Costs .....	78
Manufacturing Companies' Product Costs .....	79
Prime and Conversion Costs .....	81
Additional Labor Compensation Costs .....	82
Recap: Product Costs Versus Period Costs .....	82

### How Are Product Costs and Period Costs Shown in the Financial Statements? 85

Service Companies.....	85
Merchandising Companies.....	85

Manufacturing Companies .....87  
 Comparing Balance Sheets .....90

**What Other Cost Terms Are Used by Managers? 90**

Controllable Versus Uncontrollable Costs .....90  
 Relevant and Irrelevant Costs.....90  
 Fixed and Variable Costs .....91  
 How Manufacturing Costs Behave .....92  
 Calculating Total and Average Costs.....92

**How Can Managers Use Data Analytics to Analyze Revenue, Cost, and Inventory Data? 94**

How to Create, Filter, and Sort a Table.....96  
 End of Chapter 100

**3 Job Costing 132**

**What Methods Are Used to Determine the Cost of Manufacturing a Product? 133**

Process Costing .....133  
 Job Costing .....134

**How Do Manufacturers Determine a Job’s Cost? 135**

Overview: Flow of Inventory Through a Manufacturing System .....135  
 Scheduling Production .....136  
 Purchasing Raw Materials.....137  
 Using a Job Cost Record to Keep Track of Job Costs.....138  
 Tracing Direct Materials Cost to a Job.....140  
 Tracing Direct Labor Cost to a Job .....142  
 Allocating Manufacturing Overhead to a Job .....144  
 Completing the Job Cost Record and Using It to Make Business Decisions....147

**How Can Job Costing Information Be Enhanced for Decision Making? 149**

Non-Manufacturing Costs .....149  
 Direct or Variable Costing .....150

**How Do Managers Deal with Underallocated or Overallocated Manufacturing Overhead? 155**

**What Journal Entries Are Needed in a Manufacturer’s Job Costing System? 157**

**How Do Service Firms Use Job Costing to Determine the Amount to Bill Clients? 167**

What Costs Are Considered Direct Costs of Serving a Client? .....167  
 What Costs Are Considered Indirect Costs of Serving a Client?.....168  
 Finding the Total Cost of the Job and Adding a Profit Markup.....169  
 Invoicing Clients Using a Professional Billing Rate .....169  
 What Journal Entries Are Needed in a Service Firm’s Job Costing System?.....170

**How Can Managers Use Data Analytics to Analyze Job Cost Data? 171**

How to Create an Excel PivotTable .....173  
 End of Chapter 179

**4 Activity-Based Costing, Lean Operations, and the Costs of Quality 211**

**Why and How Do Companies Refine Their Cost Allocation Systems? 212**

Simple Cost Allocation Systems Can Lead to Cost Distortion.....212  
 Review: Using a Plantwide Overhead Rate to Allocate Indirect Costs .....213  
 Using Departmental Overhead Rates to Allocate Indirect Costs .....215  
 Using Activity-Based Costing to Allocate Indirect Costs .....220

**How Do Managers Use the Refined Cost Information to Improve Operations? 227**

Activity-Based Management (ABM) .....227  
 Passing the Cost-Benefit Test.....229

**What Is Lean Thinking? 234**

The Eight Wastes of Traditional Operations .....234  
 Characteristics of Lean Operations .....236  
 Lean Operations in Service and Merchandising Companies.....241



<b>How Do Managers Improve Quality?</b> <b>242</b>	
Costs of Quality (COQ) .....	242
Relationship Among Costs .....	243
Using Costs of Quality Reports to Aid Decisions .....	244
<b>How Do Managers Use Data Analytics to Analyze Cost Pools and Drivers?</b> <b>246</b>	
How to Use the Excel Correlation Function (CORREL).....	247
End of Chapter .....	251
<b>5 Process Costing</b> <b>286</b>	
<b>Process Costing: An Overview</b> <b>287</b>	
Two Basic Costing Systems: Job Costing and Process Costing .....	287
How Does the Flow of Costs Differ Between Job and Process Costing?.....	288
<b>What Are the Building Blocks of Process Costing?</b> <b>291</b>	
Conversion Costs.....	291
Equivalent Units.....	291
Inventory Flow Assumptions .....	292
<b>How Does Process Costing Work in the First Processing Department?</b> <b>293</b>	
Step 1: Summarize the Flow of Physical Units.....	295
Step 2: Calculate Output in Terms of Equivalent Units .....	295
Step 3: Summarize Total Costs to Account For.....	297
Step 4: Calculate the Cost per Equivalent Unit.....	297
Step 5: Assign Total Costs to Units Completed and to Units in Ending Work in Process Inventory .....	298
Average Unit Costs.....	298
<b>What Journal Entries Are Needed in a Process Costing System?</b> <b>300</b>	
<b>How Does Process Costing Work in a Second or Later Processing Department?</b> <b>305</b>	
Process Costing in SeaView's Insertion Department.....	305
Steps 1 and 2: Summarize the Flow of Physical Units and Calculate Output in Terms of Equivalent Units.....	307
Steps 3 and 4: Summarize Total Costs to Account for and Calculate the Cost per Equivalent Unit.....	308
Step 5: Assign Total Costs to Units Completed and to Units in Ending Work in Process Inventory .....	309
Unit Costs and Gross Profit .....	309
Production Cost Reports .....	310
Journal Entries in a Second Processing Department.....	311
<b>How Can Managers Use Data Analytics in a Process Costing Environment?</b> <b>313</b>	
How to Create and Sort a PivotTable.....	314
End of Chapter .....	320
<b>6 Cost Behavior</b> <b>357</b>	
<b>Cost Behavior: How Do Changes in Volume Affect Costs?</b> <b>358</b>	
Variable Costs .....	358
Fixed Costs .....	361
Mixed Costs.....	364
Relevant Range.....	366
Other Cost Behaviors .....	367
<b>How Do Managers Determine Cost Behavior?</b> <b>372</b>	
Account Analysis .....	372
Scatterplots .....	372
High-Low Method .....	374
Regression Analysis .....	376
Data Concerns.....	379
<b>What Are the Roles of Variable Costing and the Contribution Margin Income Statement?</b> <b>380</b>	
Comparing Absorption Costing and Variable Costing .....	380
The Contribution Margin Income Statement.....	382
Comparing Operating Income: Variable Versus Absorption Costing.....	385
Reconciling Operating Income Between the Two Costing Systems.....	387

How Can Managers Use Data Analytics for Making Cost Predictions?	390
How to Create a Scatterplot with a Regression Line, Equation, and R-Squared.....	392
How to Obtain Regression Output for Simple Linear or Multiple Regression ..	393
End of Chapter	400
<b>7 Cost-Volume-Profit Analysis</b>	<b>444</b>
How Does Cost-Volume-Profit Analysis Help Managers?	445
Data and Assumptions Required for CVP Analysis .....	445
The Unit Contribution Margin .....	446
The Contribution Margin Ratio .....	448
How Do Managers Find the Breakeven Point?	450
The Income Statement Approach .....	450
The Shortcut Approach Using the Unit Contribution Margin.....	451
The Shortcut Approach Using the Contribution Margin Ratio .....	452
How Do Managers Find the Sales Volume Needed to Earn a Target Profit?	453
Finding Sales Volume Needed to Earn a Target Profit .....	453
Graphing CVP Relationships .....	454
How Do Managers Use CVP to Make Decisions When Business Conditions Change?	460
Changing the Sales Price and Volume....	460
Changing Variable Costs .....	462
Changing Fixed Costs .....	463
Changing the Mix of Products Offered for Sale.....	466
What Are Some Common Indicators of Risk?	470
Margin of Safety .....	470
Operating Leverage .....	471
Choosing a Cost Structure .....	474
How Can Managers Use Data Analytics to Analyze Cost, Volume, and Profit?	476

How to Use the “What-If” Analysis to Create a Data Table.....	478
How to Use Conditional Formatting to Shade Specific Cells.....	480
End of Chapter	484
<b>8 Relevant Costs for Short-Term Decisions</b>	<b>517</b>
How Do Managers Make Decisions?	518
Relevant Information .....	518
Keys to Making Short-Term Special Decisions .....	519
Decision Pitfalls to Avoid.....	520
How Do Managers Make Pricing and Special Order Decisions?	522
Regular Pricing Decisions .....	522
Special Order Decisions .....	526
How Do Managers Make Other Business Decisions?	533
Decisions to Discontinue Products, Departments, or Stores.....	533
Product Mix Decisions When Resources Are Constrained.....	537
Outsourcing Decisions (Make or Buy) ....	540
Decisions to Sell As Is or Process Further.....	545
How Can Managers Use Data Analytics to Analyze Business Decisions?	547
How to Use VLOOKUP .....	549
End of Chapter	554
<b>9 The Master Budget</b>	<b>591</b>
How and Why Do Managers Use Budgets?	592
Developing and Using Budgets.....	592
The Benefits of Budgeting .....	594
The Master Budget.....	595
How Are the Operating Budgets Prepared?	596
Sales Budget.....	596
Production Budget .....	597
Direct Materials Budget .....	599
Direct Labor Budget.....	600
Manufacturing Overhead Budget .....	601

Operating Expenses Budget ..... 602  
 Budgeted Income Statement ..... 603

**How Are the Financial Budgets Prepared? 608**

Capital Expenditures Budget ..... 608  
 Cash Collections Budget ..... 608  
 Cash Payments Budget ..... 610  
 Combined Cash Budget ..... 612  
 Budgeted Balance Sheet ..... 613  
 Sensitivity Analysis and Flexible Budgeting ..... 614

**How Do the Budgets for Service and Merchandising Companies Differ? 615**

Service Companies ..... 616  
 Merchandising Companies ..... 616  
 Impact of Credit and Debit Card Sales on Budgeting ..... 618

**How Can Managers Use Data Analytics to Help with Budgeting? 621**

How to Visualize a Linear Trendline with Forecast Forward ..... 623  
 How to Use the FORECAST.LINEAR, SLOPE, INTERCEPT, and RSQ Functions ..... 624  
 End of Chapter ..... 630

**10 Performance Evaluation 680**

**How Does Decentralization Affect Performance Evaluation? 681**

Advantages and Disadvantages of Decentralization ..... 681  
 Performance Evaluation Systems ..... 682

**What Is Responsibility Accounting? 682**

Types of Responsibility Centers ..... 683  
 Responsibility Center Performance Reports ..... 685  
 Evaluation of Investment Centers ..... 687

**What Is Transfer Pricing? 694**

Strategies and Mechanisms for Determining a Transfer Price ..... 695

**How Do Managers Use Flexible Budgets to Evaluate Performance? 700**

Creating a Flexible Budget Performance Report ..... 701  
 Underlying Causes of the Variances ..... 704

**How Do Companies Incorporate Nonfinancial Performance Measurement? 706**

The Balanced Scorecard ..... 706

**How Can Managers Use Data Analytics for Performance Evaluation? 712**

How to Use the ABS Function to Find the Absolute Value ..... 713  
 How to Use the IF Function for a True/False Logic Test ..... 714  
 End of Chapter ..... 718

**11 Standard Costs and Variances 760**

**What Are Standard Costs? 761**

Types of Standards ..... 761  
 Information Used to Develop and Update Standards ..... 762  
 Computing Standard Costs ..... 762

**How Do Managers Use Standard Costs to Compute DM and DL Variances? 765**

Using Standard Costs to Develop the Flexible Budget ..... 765  
 Direct Materials Variances ..... 765  
 Direct Labor Variances ..... 771  
 Summary of Direct Materials and Direct Labor Variances ..... 773  
 Advantages and Disadvantages of Using Standard Costs and Variances ..... 773

**How Do Managers Use Standard Costs to Compute MOH Variances? 778**

Variable Manufacturing Overhead Variances ..... 778  
 Fixed Manufacturing Overhead Variances ..... 780  
 Standard Costing Systems ..... 782

**How Can Managers Use Data Analytics for Investigating Variances? 783**

How to Use the IFS Function to Test Multiple Conditions ..... 784  
 How to Use Conditional Formatting to Visually Highlight Cells ..... 786

How to Filter a Column of Data .....786

APPENDIX 11A.....791

**Standard Costing 791**

Standard Costing Income Statement .....794

End of Chapter 795

# 12 Capital Investment Decisions and the Time Value of Money 827

**What Is Capital Budgeting? 828**

Four Popular Methods of Capital Budgeting Analysis.....828

Focus on Cash Flows .....829

Capital Budgeting Process .....829

**How Do Managers Calculate the Payback Period and Accounting Rate of Return? 831**

Payback Period.....831

Accounting Rate of Return (ARR) .....834

**How Do Managers Calculate the Time Value of Money? 840**

Factors Affecting the Time Value of Money .....840

Future Values and Present Values:  
Points Along the Time Continuum.....841

Future Value and Present Value Factors .....842

Calculating Future Values of Single Sums and Annuities Using FV Factors .....843

Calculating Present Values of Single Sums and Annuities Using PV Factors .....844

**How Do Managers Calculate the Net Present Value and Internal Rate of Return? 847**

Net Present Value (NPV).....848

Internal Rate of Return (IRR) .....853

**How Do the Capital Budgeting Methods Compare? 856**

**How Can Managers Use Data Analytics to Analyze Capital Investments? 857**

How to Use the IRR Function to Analyze Capital Investments.....859

APPENDIX 12A.....863

**Present Value Tables and Future Value Tables 863**

Table A Present Value of \$1.....863

Table B Present Value of Annuity of \$1 ..864

Table C Future Value of \$1 .....865

Table D Future Value of Annuity of \$1 .....866

APPENDIX 12B.....867

**Solutions to Chapter Examples Using Microsoft Excel 867**

APPENDIX 12C.....871

**Using a TI-83, TI-83 Plus, TI-84, or TI-84 Plus Calculator to Perform Time Value of Money Calculations 871**

End of Chapter 877

# 13 Statement of Cash Flows 905

**What Is the Statement of Cash Flows? 906**

Three Types of Activities That Generate and Use Cash .....907

Two Methods of Presenting Operating Activities.....909

**How Is the Statement of Cash Flows Prepared Using the Indirect Method? 913**

Information Needed to Prepare the Statement of Cash Flows .....913

Preparing the Cash Flows from Operating Activities .....913

Preparing the Cash Flows from Investing Activities .....919

Preparing the Cash Flows from Financing Activities .....921

Interpreting the Statement of Cash Flows .....923

Recap: Steps to Preparing the Statement of Cash Flows Using the Indirect Method .....923

**How Is the Statement of Cash Flows Prepared Using the Direct Method? 924**

Overview.....924

Determining Cash Payments and Receipts.....925

How Can Managers Use Data Analytics to Prepare the Statement of Cash Flows? 928

How to Create an Excel PivotTable with a Slicer .....930

End of Chapter 938

How Can Managers Use Data Analytics for Financial Statement Analysis? 996

How to Create Sparklines.....999

How to Create Line Charts .....1000

End of Chapter 1006

## 14 Financial Statement Analysis 975

What Are the Most Common Methods of Analysis? 976

What Is Horizontal Analysis? 976

Horizontal Analysis of the Income Statement.....978

Horizontal Analysis of the Balance Sheet .....978

Trend Percentages.....978

What Is Vertical Analysis? 980

How Do We Compare One Company with Another?.....982

Using Microsoft Excel.....982

What Are Some of the Most Common Financial Ratios? 986

Measuring Ability to Pay Current Liabilities.....986

Measuring Ability to Sell Inventory and Collect Receivables .....987

Measuring Ability to Pay Long-Term Debt .....989

Measuring Profitability .....990

Analyzing Stock Investments.....994

Red Flags in Financial Statement Analysis 995

## 15 Sustainability 1039

What Is Sustainability, and How Does It Create Business Value? 1040

Historical Overview.....1041

Forward-Thinking Business Model .....1042

The Business Case for Sustainability ....1043

What Is Sustainability Reporting? 1047

Current State of Sustainability Reporting .....1048

Reasons for Sustainability Reporting....1048

Framework for Sustainability Reporting .....1049

Integrated Reporting.....1052

What Is Environmental Management Accounting (EMA)? 1053

EMA Systems.....1053

Uses of Environmental Management Accounting Information .....1054

Challenges to Implementing EMA Systems .....1056

How Do Managers Analyze Sustainability Performance Using Data Analytics Tools? 1057

How to Create Column Charts .....1059

End of Chapter 1062

GLOSSARY/INDEX..... I-1

*This page is intentionally left blank*

# Solving Learning and Teaching Challenges

## Technology Makes It Simple

These features give students step-by-step directions on how to use Microsoft Excel 365 to perform an accounting task with more efficiency. Examples include: scatterplots, regression analysis, capital budgeting, CVP graphs, budgeting, and sensitivity analysis.

### Technology Makes It Simple

Excel 365

---

**Creating Scatterplots**

1. In an Excel spreadsheet, type in your data as pictured in Exhibit 6-12. Put the volume data in one column and the associated cost data in the next column to the right.
2. Select all of the volume and cost data with the cursor (do not include the text headings).
3. Click the **Insert** tab on the ribbon. From the chart options, choose **Scatter** as the chart type. Next, click the plain scatterplot (without any lines). You'll see the scatterplot on your screen. If you want to make the scatterplot larger, choose **Move Chart Location** from the ribbon and select **New Sheet** and **OK**. Make sure the volume data is on the x-axis and the cost data is on the y-axis.
4. To add titles for the chart and each axis, click on the **Quick Layout** tab on the ribbon and choose the first layout pictured. Customize the chart and axis titles to reflect your data set. You may also delete the legend, if desired, by right-clicking on the legend and choosing **delete**.
5. If the data consist of large numbers, the graph may not automatically start at the origin. If you want to see the origin on the graph, right-click on any of the numbers on the x- or y-axis and choose **Format Axis**. Then insert "0" (zero) as the minimum bound.

## Try It!

Sarah Haymeyer, CPA, pays her new staff accountant, Hannah, a salary equivalent to \$25 per hour, while Sarah receives a salary equivalent to \$40 per hour. The firm's predetermined indirect cost allocation rate for the year is \$12 per hour. Haymeyer bills for the firm's services at 30% over cost. Assume Sarah works 5 hours and Hannah works 10 hours preparing a tax return for Michele Meckfessel.

1. What is the total cost of preparing Meckfessel's tax return?
2. How much will Sarah bill Meckfessel for the tax work?

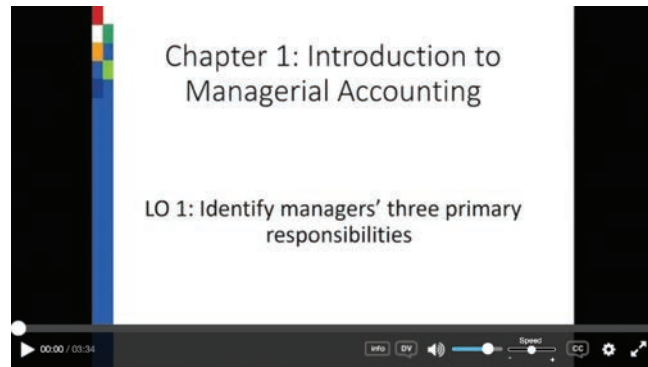
Please see page 210 for solutions.

## Try It! Interactive Questions

Found throughout the chapter, Try It! interactive questions give students the opportunity to apply the concept they just learned with solutions provided at the end of the chapter. Video solutions are also available in MyLab Accounting, featuring the author walking through the Try It! problems on a white board.

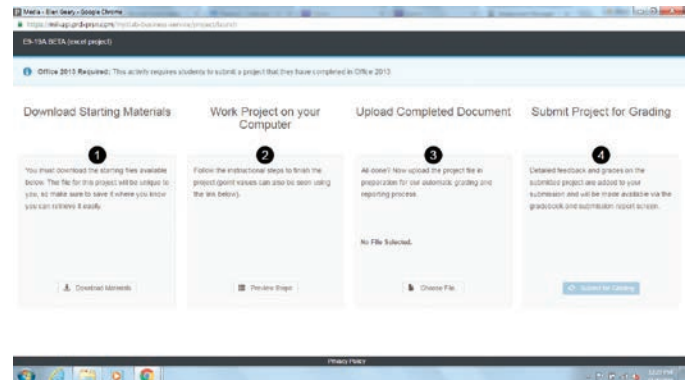
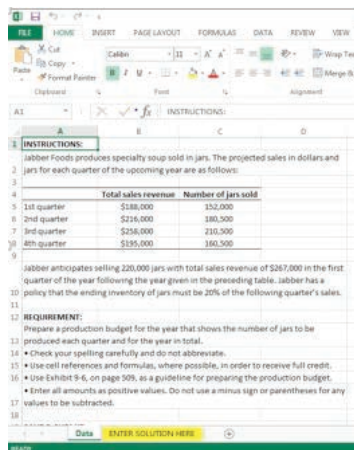
## Learning Objective Videos

Each learning objective in the text has a corresponding short (3- to 5- minute), author-created video that summarizes the content of the text. These videos were created with flexibility in mind: students can use them to preview the text before reading, summarize the text after reading, or review concepts in preparation for exams. The videos are housed in the multimedia library in MyLab Accounting and are also assignable.



## Excel in MyLab Accounting

- Students will download and complete problem in Microsoft Excel.
- Students receive personalized, detailed feedback upon submitting their completed spreadsheets.
- Questions will be auto-graded and reported to the grade book.



## Sustainability

Within every chapter is a section on how sustainability relates to the main chapter topic.

Sustainability and Cost Behavior
Cost Behavior 369

Many companies adopting sustainable business practices experience changes in the way their costs behave. For example, most banks, credit card companies, and utilities now promote the use of paperless e-banking and e-billing as a preferable alternative to sending traditional paper statements and bills through the mail. Why? Because e-banking and e-billing drives down a company's variable costs since they don't have to spend money on the paper, envelopes, printing, and postage associated with sending out paper statements. Likewise, when a customer pays electronically rather than sending in a check, the company doesn't incur the variable cost associated with opening the mail, recording the payment to the customer's account, and processing the bank deposit. All of this is accomplished electronically by the company's software.

On the other hand, the company must incur additional fixed costs to develop and operate secure online banking and billing websites. However, we know that the variable cost savings is greater than the increase in fixed costs because many companies are either (1) offering customer incentives to switch to e-billing or (2) charging customers an additional fee for receiving paper-based bills and statements in the mail. Whether using the carrot or the stick approach, companies are shifting consumer behavior as a means to decrease total costs.

The environmental consequences of e-billing and e-banking are tremendous if you consider the entire production and delivery cycle of the bills and statements, all of the way from logging the trees in the forest to delivery of the bill at the customer's doorstep. Not only are fewer trees cut down, but also less energy is consumed in transportation of the timber, processing of the paper, distribution of the paper, delivery of the statements via the U.S. Postal Service, and final disposal of the paper at landfills or recycling centers. In addition, less waste water is generated and fewer greenhouse gas emissions are produced. The downside, from a triple-bottom-line perspective, is the loss of jobs in associated industries, such as the U.S. Postal Service.

See Exercises E6-26A and E6-49B

We have just described the most typical cost behaviors. In the next part of the chapter, we will discuss methods managers use for determining how their costs behave.

Also included is a quick reference on which end-of-chapter problems correspond to the sustainability concept.

SUSTAINABILITY
116 CHAPTER 2

**E2-388 Value chain and sustainability efforts** (Learning Objective 2)

Each of the scenarios to follow describes some cost item for organizations in the recycled carpet industry. For each scenario, identify which function of the value chain that cost would represent (R&D, Design, Purchasing/Producing, Marketing, Distributing, or Customer Service). Note: The companies and products used in this exercise are real companies with a strong sustainable practices commitment.

- Flor®, a company that produces residential carpet tiles made from recycled carpet, has an R&E return and recycling Program. Homeowners can arrange to have old tiles picked up and shipped back to the plant for recycling. The cost of operating this R&E program would fall into which function in the value chain?
- Los Angeles Fiber Company (LAF) received the EPA/CARE award to recognize Los Angeles Fiber Company's sustainability efforts. Since 2000, LAF has recycled more than 444 million pounds of post-consumer carpet. Its carpet brand, Balance Carpet, is made entirely from post-consumer carpet fiber. The cost of promoting the company's products and its sustainability efforts would fall into which function in the value chain?
- Ford Motor Company purchases cylinder head covers made from a nylon resin containing 100% recycled carpet in its Mustang. The cost of the cylinder head covers would fall into which function in the value chain?
- Ammeter Carpets offsets the carbon emissions from its carpet distribution process by investing in renewable energy projects such as wind, power, and hydropower plants. This carbon offset is verified independently by the Voluntary Carbon Standard. The cost of these carbon offsets would fall into which function in the value chain?
- Shaw Industries is a flooring manufacturer. It has created Cradle to Cradle Silver Certified carpet, which is carpet that can be recycled back into new carpet again and again at the end of its useful life, or it can go back into the soil. The costs to develop the production process for the Cradle to Cradle Silver Certified carpet would fall into which function in the value chain?
- FibreBlock® Flooring is manufactured using the waste generated from the manufacture of commercial nylon carpet. The cost of the research into how to create Fibre Block® Flooring would fall into which function in the value chain?

**E2-398 Classify and calculate a manufacturer's costs** (Learning Objective 4)

An airline manufacturer incurred the following costs last month (in thousands of dollars):

a. Airplane seats	\$ 300
b. Production supervisors' salaries	\$ 110
c. Depreciation on forklifts in factory	\$ 90
d. Machine lubricants	\$ 30
e. Factory janitors' wages	\$ 50
f. Assembly workers' wages	\$ 630
g. Property tax on corporate marketing offices	\$ 20
h. Plant utilities	\$ 140
i. Cost of warranty repairs	\$ 230
j. Machine operators' health insurance	\$ 40
k. Depreciation on administrative offices	\$ 100
l. Cost of designing new plant layout	\$ 160
m. Jet engines	\$ 1,400

**Requirements**

- Assuming the cost object is an airplane, classify each cost as one of the following: direct material (DM), direct labor (DL), indirect labor (IL), indirect materials (IM), other manufacturing overhead (other MOH), or period cost. What is the total for each type of cost?
- Calculate total manufacturing overhead costs.
- Calculate total product costs.
- Calculate total prime costs.
- Calculate total conversion costs.
- Calculate total period costs.



# 15

## Sustainability

**Learning Objectives**

- Describe sustainability and how it can create business value
- Describe sustainability reporting and the leading reporting frameworks
- Describe EMA systems and their uses and challenges
- Analyze sustainability performance using data analytics tools

**Southwest Airlines** is renowned for having a positive corporate culture that embraces employees as the heart of its operations. Unlike other major airlines, after 9/11 and the economic crisis of 2008, Southwest refused to lay off employees. The result? Southwest has been listed for 24 consecutive years on Forbes's list of the "World's Most Admired Companies," including being ranked eighth highest on the list in 2018. It has also made Forbes's "Best Employer" list and Corporate Responsibility magazine's "Best Corporate Citizen" list. How does Southwest do it? The company embraces the triple bottom line: people, planet, and profit. Not only does Southwest treat its employees well, returning over \$544 million to employees in 2018 as part of its profit-sharing plan, but it also treats customers well by offering two free checked bags, no change fees, and frequent-flyer points that can be used to book any flight at any time. From an environmental perspective, Southwest has been able to increase its jet fuel efficiency by nearly 33% since 2005, and the company has increased recycling efforts, not only with in-flight and corporate waste but even with its used airplane seats and billboards. How have all of these measures affected the company's profitability? Southwest has had 46 consecutive years of profit, which is unheard of in the airline industry, especially during the turbulent periods following 9/11 and the latest economic crisis.

## Sustainability Chapter

This chapter provides a deeper dive into how sustainability can generate business value. It also includes sections on sustainability reporting, including the Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and Integrated Reporting (IR).



EXHIBIT 6-15 Output of Microsoft Excel Regression Analysis

	A	B	C	D	E	F	G	H	I	
1	<b>SUMMARY OUTPUT</b>									
2	Regression Statistics									
3	Multiple R		0.973273							
4	R Square		0.947294							
5	Adjusted R Square		0.941986							
6	Standard Error		8063.744							
7	Observations		12							
8	ANOVA									
9		df	SS	MS	F	Significance F				
10	Regression	1	11850074512	11850074512	179.8110983	1.02698E-07				
11	Residual	10	6488279862	648827986.2						
12	Total	11	12538354374							
13							Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
14	Intercept		14938.05	11898.3624	1.221853	0.248783701	11973.15763	41049.25	-11973.15763	41049.25
15	X Variable 1		7.86076	0.98320146	13.4219	1.02096E-01	6.5446007	10.144811	5.8427	15.54511

- Intercept coefficient (this refers to the vertical intercept) = 14,938.05
- X Variable 1 coefficient (this refers to the slope) = 7.85 (rounded)
- The R-squared value (the goodness-of-fit statistic) = 0.947 (rounded)

Let's look at each piece of information, starting with the highlighted information at the bottom of the output:

- The Intercept coefficient is the vertical intercept of the mixed cost line. It represents the fixed cost component of the mixed cost. Regression analysis tells us that the fixed component of the monthly utility bill is \$14,938. Why is this different from the \$8,000 fixed cost we found using the high-low method? It's because regression analysis considers every data point, not just the high- and low-volume data points, when forming the best fitting line.
- The "X Variable 1 coefficient" is the slope of the mixed cost line. It represents the variable cost per guest. Regression analysis tells us that the hotel spends an extra \$7.85 on utilities for every guest it serves. This is slightly lower than the \$8 per guest amount we found using the high-low method. Using the regression output, we can write the monthly utilities cost equation as follows:

$$y = 7.85x + \$14,938$$

where

$$y = \text{total monthly utilities cost}$$

$$x = \text{number of guests}$$

- Now, let's look at the R-squared value highlighted near the top of Exhibit 6-15. The R-squared value is often referred to as a "goodness-of-fit" statistic because it tells

**Why is this important?**

"Regression analysis gives managers the most representative cost equations, allowing them to make the most accurate cost projections. It is also very easy to perform using Excel."

## Why is this important?

Found throughout the chapter, this feature connects accounting with the business environment so that students can better understand the business significance of managerial accounting.

## Decision Guidelines

Found at the midpoint and end of each chapter, this feature uses a business decision context to summarize key terms, concepts, and formulas from the chapter in question-and-answer format.

### Decision Guidelines

#### Relevant Information for Business Decisions

Nike's managers consider both quantitative and qualitative factors as they make pricing and special order decisions. Here are key guidelines that Nike's managers follow in making their decisions.

Decision	Guidelines*
What information is relevant to a short-term special business decision?	Relevant information has two characteristics: 1. It pertains to the future. 2. It differs between alternatives.
What are two key guidelines in making short-term special business decisions?	1. Focus on relevant data. 2. Use a contribution margin approach that separates variable costs from fixed costs.
What are two pitfalls to avoid in making business decisions?	1. Avoid including sunk costs. 2. Avoid using the absorption cost per unit since it includes both fixed and variable components.
How does a company's commitment to sustainability affect decision making?	Companies that are committed to sustainability will judge every decision through the lens of the triple bottom line, assessing the impact of the decision not only on company profit, but also on its consequences for people and the planet.
What should Nike consider in setting its regular product prices?	Nike considers the following: 1. The profit stockholders expect. 2. The price customers are willing to pay. 3. Whether it is a price setter or a price taker.
Which approach should Nike take to pricing?	Nike has differentiated its products through advertising and branding. Thus, Nike tends to be a price setter. Nike's managers can emphasize a cost-plus approach to pricing: <b>Total cost</b> <b>Plus: desired profit</b> <b>Cost-plus price</b>
Which approach should a nonbranded T-shirt manufacturer take to pricing?	When a company offers generic products that have no brand recognition, the company is a price taker. Since managers have no control over pricing, they will emphasize a target-costing approach to pricing: <b>Revenue or market price</b> <b>Less: desired profit</b> <b>Target total cost</b>
Should Nike accept a large special order from a customer at a price that is lower than the normal sales price?	If the revenue from the order exceeds the incremental variable and fixed costs of filling the order, then accepting the order will increase operating income.

### STOP & THINK

Do the journal entries used to record job costing differ if a manufacturer uses a refined cost allocation system (departmental overhead rates or ABC) rather than a single, plantwide overhead rate?

**Answer:** The journal entries used for a refined costing system are essentially the same as those described in Chapter 3 for a traditional job costing system. The only difference is that the company will typically use several MOH accounts (one for each department or activity cost pool) rather than one MOH account. By using several MOH accounts, the manufacturer obtains more detailed information on each cost pool. This information may help managers make better estimates when calculating allocation rates the next year.

### How Do Managers Use the Refined Cost Information to Improve Operations?

We've just seen how companies can increase the accuracy of their product costing systems by using departmental overhead rates or ABC. Now let's consider how managers use this improved cost information to run their companies more effectively and efficiently.

#### Activity-Based Management (ABM)

**Activity-based management (ABM)** refers to using activity-based cost information to make decisions that increase profits while satisfying customers' needs. Companies can use ABC information for pricing and product mix decisions, for identifying opportunities to cut costs, and for routine planning and control decisions.

#### Pricing and Product Mix Decisions

Earlier in the chapter, our ABC example showed managers that ellipticals cost less to make and treadmills cost more to make than indicated by the original plantwide cost allocation system. As a result, managers may decide to charge pricing on these products. For example, the company may be able to reduce its price on ellipticals to become more price-competitive. Or the company may decide to capitalize on the extra profitability of the product by leaving the price where it is but increasing demand by placing more advertisements for ellipticals. On the other hand, managers will want to reevaluate the price charged for treadmills. The price must be high enough to cover the cost of producing and selling the treadmills while still being low enough to compete with other companies and earn Nike a reasonable profit.

After implementing ABC, companies often realize they are overcosting their high-volume products and undercosting their low-volume products. Plantwide overhead rates based on volume-sensitive allocation bases (such as direct labor hours) end up allocating more cost to high-volume products and less cost to low-volume products. However, ABC recognizes that not all indirect costs are driven by the number of units produced. That is to say, not all costs are unit-level costs. Rather, many costs are incurred at the batch level or product level, where they can be spread over the number of batches or product lines. As shown in Exhibit 4-21, ABC tends to increase the unit cost of low-volume products (that have fewer units over which to spread batch-level and product-level costs), and decrease the unit cost of high-volume products.

As a result of using ABC, some companies have found that they were actually losing money on some of their products while earning much more profit than they had realized on other products by shifting the mix of products offered away from the less profitable and toward the more profitable. Companies are able to generate a higher operating income.

#### Cutting Costs

Most companies adopt ABC to get more accurate product costs for pricing and product mix decisions, but they often enjoy even greater benefits by using ABM to pinpoint opportunities to cut costs. For example, the ABC data calculated in Exhibit 4-13 showed

## Stop & Think

Found at various points within each chapter, this feature includes a question-and-answer snapshot asking students to critically examine a concept they just learned.



**END OF CHAPTER**

**Learning Objectives**

- 1 Distinguish between job costing and process costing
- 2 Understand the flow of production and how direct materials and direct labor are traced to jobs
- 3 Compute a predetermined manufacturing overhead rate and use it to allocate MOH to jobs
- 4 Determine the cost of a job and use it to make business decisions
- 5 Compute and dispose of overallocated or underallocated manufacturing overhead
- 6 Prepare journal entries for a manufacturer's job costing system
- 7 Use job costing at a service firm as a basis for billing clients
- 8 Analyze job cost and profitability data using data analytics tools

**Accounting Vocabulary**

**Bill of Materials** (p. 137) A list of all of the raw materials needed to manufacture a job.

**Billing Rate** (p. 149) The labor rate charged to the customer, which includes both cost and profit components.

**Cost Driver** (p. 148) The primary factor that causes a cost.

**Cost-Plus Pricing** (p. 148) A pricing approach in which the company adds a desired level of profit to the product's cost.

**Invoice** (p. 138) Bill from a supplier.

**Job Cost Record** (p. 138) A written or electronic document that lists the direct materials, direct labor, and manufacturing overhead costs assigned to each individual job.

**Job Costing** (p. 136) A system for assigning costs to products or services that differ in the amount of material, labor, and overhead required. Typically used by manufacturers that produce unique or custom-ordered products in small batches, also used by professional service firms.

**Labor Time Record** (p. 142) A written or electronic document that identifies the employee, the amount of time spent on a particular job, and the labor cost charged to jobs.

**Mass Customization** (p. 135) Large-scale production of customized product that allows manufacturers to meet a variety of customer desires while at the same time achieving the efficiencies of mass production that drive down unit costs.

**Materials Requisition** (p. 141) A written or electronic document requesting that specific materials be transferred from the raw materials inventory stream to the production floor.

**Overallocated Manufacturing Overhead** (p. 155) The amount of manufacturing overhead allocated to jobs is more than the amount of manufacturing overhead costs actually incurred, results in jobs being overcosted.

**POB** (p. 143) Streamlines revenue items from raw materials inventory that are needed by production.

**Process Costing** (p. 139) A system for assigning costs to a large number of identical units that typically pass through a series of uniform production steps. Costs are averaged over the units produced such that each unit bears the same unit cost.

**Production Schedule** (p. 136) A written or electronic document indicating the quantity and type of inventory that will be manufactured during a specified time frame.

**Purchase Order** (p. 138) A written or electronic document authorizing the purchase of specific raw materials from a specific supplier.

**Raw Materials Record** (p. 137) A written or electronic document listing the number and cost of all units used and received and the balance currently in stock; a separate record is maintained for each type of raw material kept in stock.

**Receiving Report** (p. 138) A written or electronic document listing the quantity and type of raw materials received in an incoming shipment; the report is typically a duplicate of the purchase order without the quantity pre-listed on the form.

**Stock Inventory** (p. 136) Products normally kept on hand in order to quickly fulfill customer orders.

**Subsidiary Ledger** (p. 149) Supporting detail for a general ledger account.

**Underallocated Manufacturing Overhead** (p. 155) The amount of manufacturing overhead allocated to jobs is less than the amount of manufacturing overhead costs actually incurred; the results in jobs being undercosted.

CHAPTER 3

179

## End-of-Chapter Problems

End-of-chapter items are structured to allow students to progress from simple to more rigorous as they move from item to item.

## Serial Case

A serial (continuing) case that focuses on one real world company has been added to the end-of-chapter material. The serial case consists of several small cases, one per chapter. These cases are meant to inspire critical thinking and to connect the content with real life by following one company through all of the chapters in managerial accounting.

822 CHAPTER 11

**Serial Case**

**CI145 Calculate labor variances in a hotel** (Learning Objective 3)

This case is a continuation of the Caesar's Entertainment Corporation serial case that began in Chapter 3. The components of the Caesar's serial case can be completed in any order.

Housekeeping is a significant cost in running a hotel; housekeeping includes daily cleaning of occupied guest rooms and guest bathrooms. Before its renovation, the Roman Tower, formerly known as the Julius Tower, had 567 rooms. What follows is a table of selected hypothetical data regarding housekeeping costs in the Roman Tower for the past year:

Data table for Roman Tower housekeeping usage*	
STANDARD DATA—Roman Tower	
Standard hours per hotel room-cleaning	0.25
Total standard housekeeping hours—Roman Tower	36,399.25
Standard average housekeeper wage rate per hour	\$ 14.50
Budgeted number of rooms to be cleaned	147,375
ACTUAL DATA—Roman Tower	
Actual hours per hotel room-cleaning	0.30
Total actual housekeeping hours—Roman Tower	43,679.10
Actual average housekeeper wage rate per hour	\$ 13.50
Actual number of rooms cleaned	145,097

**Requirements**

- Calculate the Labor Rate Variance (LRV) for the Roman Tower housekeeping.
  - Hint:  $LRV = \text{Actual Hours} \times (\text{Actual Rate} - \text{Standard Rate})$ . Answer the following questions about the LRV.
    - a. Is the LRV favorable or unfavorable? How do you know?
    - b. What are some possible reasons for this labor rate variance?
- Calculate the Labor Efficiency Variance (LEV) for the Roman Tower housekeeping in 2015. Hint:  $LEV = \text{Standard Rate} \times (\text{Actual Hours} - \text{Standard Hours})$ . Answer the following questions about the LEV.
  - a. Is the LEV favorable or unfavorable? How do you know?
  - b. What are some possible reasons for this labor efficiency variance?

\* All of these Roman Tower housekeeping assumptions are hypothetical and provided for educational use only.

CHAPTER 11

586 CHAPTER 9

**CRITICAL THINKING**

**Discussion & Analysis**

**AB-47 Discussion Questions**

- A beverage company is considering whether to discontinue its line of grape soda. What factors will affect the company's decision? What is a qualitative factor? Which of the factors you listed are qualitative?
- What factors would be relevant to a restaurant that is considering whether to make its own dinner rolls or to purchase dinner rolls from a local bakery?
- How would outsourcing change a company's cost structure? How might this change in cost structure help or harm a company's competitive position?
- What is an opportunity cost? List possible opportunity costs associated with a make-or-buy decision.
- What undesirable result can arise from allocating common fixed costs to product lines?
- Why would a manager be justified in ignoring fixed costs when making a decision about a special order? When would fixed costs be relevant when making a decision about a special order?
- What is the difference between segment margin and contribution margin? When would each be useful?
- Do joint costs affect a sell as is or process further decision? Why or why not?
- How can "make-or-buy" concepts be applied to decisions at a service organization? What types of make-or-buy decisions might a service organization face?
- Osceola Company builds outdoor furniture using a variety of woods and plastics. What is a constraint? List at least four possible constraints at Osceola Company.
- Do a web search on the terms carbon offset and carbon footprint. What is a carbon footprint? What is a carbon offset? Why would carbon offsets be of interest to a company? What are some companies that offer (sell) carbon offsets?
- A computer manufacturer is considering outsourcing its technical support call center to India. Its current technical support call center is located in Dublin, Ohio. The current call center is one of the top employers in Dublin and employs about 10% of the town's people in Dublin. The town has experienced high unemployment rates in the past two decades, and often the call employees are the sole breadwinners in their households. If the technical support call center were to be moved to India, the company would be able to pay about 50% less per hour than it currently pays in Dublin, Ohio. From a triple-bottom-line perspective (people, planet, and profit), what factors are relevant to the company's decision to outsource its technical support call center? Be sure to discuss both quantitative and qualitative factors.

**Application & Analysis**

**Mini Cases**

**REAL LIFE**

**AB-48 Outsourcing Decision at a Real Company**

Go to the [Ford](http://www.ford.com) Web site (www.ford.com) or the [Toyota](http://www.toyota.com) Web site (www.toyota.com) and search for the term *outsourcing*. Find an article about a company making a decision to outsource a part of its business operations.

**Basic Discussion Questions**

- Describe the company that is making the decision to outsource. What area of the business is the company looking to outsource, or did it already outsource?
- Why did the company decide to outsource (or is considering outsourcing)?
- List the revenues and costs that might be impacted by this outsourcing decision. The article will not list every, if any, of these revenues and costs; you should make reasonable guesses about what revenues and/or costs would be associated with the business operation being outsourced.

## Critical Thinking

Problems are included to provide students with the opportunity for applied critical thinking. These problems include ethical topics, mini cases, and decision-making cases in real companies.

- Ethics Mini Cases based on the IMA Statement of Professional Practice are highlighted with an icon.

**ETHICS**

- Real Life Mini Cases focusing on a real company and the decisions presented in business are highlighted with an icon.

**REAL LIFE**

### Directed Reading Guides

Directed reading guides, which have been prepared by the authors, help students take thorough notes while reading the text and glean the most important information from each chapter. Each chapter's reading guide follows the text, paragraph-by-paragraph, asking students to answer questions and fill in the blanks, thereby keeping students actively engaged while preparing for class.

### Accounting in the Headlines Blog

Accounting in the Headlines ([www.accountingintheheadlines.com](http://www.accountingintheheadlines.com)) is a blog written by Wendy Tietz. New stories are added to the blog each month. The blog contains short stories about real-life companies and current events that can be used in the accounting classroom to illustrate introductory accounting concepts. The blog posts contain stories and discussion questions, making the blog a turnkey solution for instructors wanting to use real-life examples in their classes. All content is intended to be brief and fit easily into the typical introductory accounting class. In addition to the content found on the blog site, multiple-choice questions related to each blog post can be found in MyLab Accounting.

## WHAT'S NEW TO THE SIXTH EDITION

*Both students and instructors will benefit from new content in the sixth edition.*

- **NEW CONTENT ON DATA ANALYTICS!** Data Analytics is becoming critically important in business—specifically in accounting. In an increasingly competitive environment, having the ability to harness information to make sound business decisions is becoming crucial. In the last learning objective of every chapter, students are introduced to data analytics in the context of a business decision relating to the chapter content. Each data analytics section focuses on both 1) knowledge and insight, and 2) a Microsoft Excel skill that could be used to analyze the data.
- Each chapter has corresponding data analytics homework questions that mimic the business decision used in the text. The homework ranges in difficulty from simply understanding the concepts (Quick Check), to interpreting the data analytics output (Exercises), to performing the data analytics (Problems). This range of homework material provides ample opportunity for students to improve critical thinking and Excel skills in the realm of data analytics.
- Data analytics content is provided in the last learning objective in each chapter, giving professors maximum flexibility for covering the material as they see fit:

**Chapter 1** LO 6: Describe foundational concepts in data analytics – Overview of data analytics: Benefits, process, types of data, types of analytics, and reasons for data visualization.



LO 7: Describe fundamental Excel features and perform basic Excel operations – Overview of how to identify, navigate and use basic Excel features. Excel skills: Identify components of a workbook and navigate through large data sets, select cells and ranges, reference cells and ranges, carry out arithmetic operations, access functions and dialog boxes.

- Chapter 2** LO 8: Analyze revenue, cost and inventory data using data analytics tools – Analyze *individual* data records in large data sets to determine oldest inventory, largest sales orders in specific locations, and so forth. Excel skills: Create, sort and filter Excel tables.
- Chapter 3** LO 8: Analyze job costs and profitability data using data analytics tools – Aggregate and analyze *summarized* job cost data by attributes, such as finding average cost by product and plant. Excel skill: Pivot tables.
- Chapter 4** LO 6: Analyze activity cost pools and cost drivers using data analytics tools: Find correlation between variables to choose the best allocation base for activity cost pools. Excel skill: CORREL function (correlation).
- Chapter 5** LO 6: Analyze process costing information using data analytic tools: Analyze individual data records and aggregated data to find the most profitable individual orders and the most profitable packaging options and customers for a mass-produced product. Excel skills: Create and sort Excel tables and pivot tables.
- Chapter 6** LO 7: Analyze cost behavior and make predictions using data analytic tools: Use regression to build predictive cost models for an airline that is contemplating adding a new route. Excel skills: Linear regression, multiple regression, R-squared, adjusted R-squared, scatter chart, trendline, regression equation.
- Chapter 7** LO 6: Analyze cost, volume, and profit using data analytics tools: Calculate operating income under several combinations of price and volume simultaneously; visually highlight those combinations that meet management's profit goals. Excel skills: What-if-Analysis data tables; conditional formatting.

- Chapter 8** LO 8: Analyze business decisions using data analytics tools: Determine profitability of a special order by locating cost records and comparing with the requested special-order prices. Excel skill: VLookup.
- Chapter 9** LO 5: Analyze data for budgeting using data analytics tools: Build predictive sales models using simple linear regression. Excel skills: Use Forecast Forward to forecast trendline at higher volumes; use FORECAST, RSQ, SLOPE and INTERCEPT functions.
- Chapter 10** LO 7: Analyze financial performance using data analytics tools: Calculate variances and label them as favorable or unfavorable on a performance report. Excel skills: IF function, ABS functions.
- Chapter 11** LO 7: Analyze manufacturing variances using data analytics tools: Use management by exception to find variances exceeding management's investigation criteria. Excel skills: IFS function, filtering, conditional formatting.
- Chapter 12** LO 6: Analyze capital investments using data analytics tools: Perform sensitivity analysis on the IRR of a potential investment using three different cash flow scenarios (best, most likely, and worse-case scenarios). Excel skill: IRR function.
- Chapter 13** LO 4: Analyze financial data for the statement of cash flows using data analytics tools: Aggregate general ledger accounts into comparative balance sheet line items in order to prepare the operating section of the statement of cash flows. Excel skills: Pivot table with slicer.
- Chapter 14** LO 5: Analyze financial trends using data analytics tools: Compute gross profit percentage on different distribution channels and visualize trends in sales revenue and gross profit for each channel. Excel skills: Sparklines and line charts.
- Chapter 15** LO 4: Analyze sustainability performance using data analytics tools: Prepare and analyze column charts on the company's waste-to-landfill as part of a sustainability dashboard. Excel skill: Column charts.
- **NEW DATA ANALYTICS PROJECTS!** Offer students hands-on practice in mining, analyzing, and reporting on data. Each project contains a list of requirements, a data set from a real company, a tutorial video, and instructions for using software such as Excel, Power BI, or Tableau. Using these tools, students learn how to extract and examine key information about a company related to its products, operations, and consumer buying habits. With this experience and knowledge, students are able to make smarter business decisions and are better prepared for the workforce. Additional data analytics teaching materials can be accessed by visiting the "Accounting Is Analytics" blog (<https://accountingisanalytics.com>) written by Wendy Tietz, Jennifer Cainas, and Tracie Miller-Nobles.

**New and updated content within the end-of-chapter material**

- Quick Checks** Updated quick checks in each chapter. These questions are conceptual in nature. New data analytics question in every chapter.
- Short Exercises** Short exercises have been updated, where applicable, to remain current. In addition, a new real-world short exercise is included in every chapter.
- Exercises** Exercises have been updated, where applicable, to remain current. New data analytics exercises that require students to *interpret* the output of the data analytics illustrated in the chapter.
- Problems** Problems have been updated, where applicable, to remain current. New data analytics problems that require students to *perform* the data analytics illustrated in the chapter.
- Ethics Mini Cases** Updated case at the end of each chapter based on the IMA Statement of Professional Practice.
- Real Life Mini Cases** Updated case at the end of each chapter focusing on a real company situation.
- Serial Case** The serial case has been updated. This serial case focuses on the same real world company and continues throughout the entire text in the end of chapter materials.



## ABOUT THE AUTHORS

**Karen Wilken Braun** is a professor for the Department of Accountancy in the Weatherhead School of Management at Case Western Reserve University. Dr. Braun is also the Beta Alpha Psi adviser and the director of the undergraduate accounting program. Professor Braun was on the faculty of the J.M. Tull School of Accounting at the University of Georgia before her appointment at Case Western Reserve University. She has received multiple “Outstanding Teacher of the Year” awards at both business schools. In 2018, she was named one of Poets & Quants “Top 50 Undergraduate Business Professors” in the country and in 2017, she was named “Business Information Professional of the Year” in the category of Education, by Beta Alpha Psi (national).

Professor Braun is a Certified Public Accountant and holds membership in the American Accounting Association (AAA), the Institute of Management Accountants, and the American Institute of Certified Public Accountants. She also holds the Chartered Global Management Accountant designation, and is a member of the AAA’s Management Accounting Section as well as the Teaching, Learning and Curriculum Section. Dr. Braun has regularly held leadership positions with the AAA’s Conference on Teaching and Learning in Accounting (CTLA) including co-chairing the 2015 and 2016 conferences. She was awarded the 2016 Bea Sanders/AICPA Teaching Innovation Award for her development of Excel-based active-learning resources for introductory managerial accounting courses. Dr. Braun’s research and teaching interests revolve around lean operations, sustainability, corporate responsibility, and accounting education. Dr. Braun’s work has been published in *Contemporary Accounting Research*, *Issues in Accounting Education*, *Journal of Accounting Education*, and *Strategic Finance*.

Dr. Braun received her Ph.D. from the University of Connecticut and her B.A., summa cum laude, from Luther College, where she was a member of Phi Beta Kappa. Dr. Braun gained public accounting experience while working at Arthur Andersen & Co. and accumulated additional business and management accounting experience as a corporate controller.

Professor Braun has two daughters who are both recent college graduates. In her free time, she enjoys biking, gardening, hiking, skiing, and spending time with family and friends.

To my children, Rachel and Hannah, who are the joy of my life,  
and to my students, who inspire me daily.

Karen W. Braun



**Wendy M. Tietz** is a professor for the Department of Accounting in the College of Business Administration at Kent State University. She teaches introductory financial and managerial accounting in a variety of formats, including large sections, small sections, and web-based sections. She has received numerous college and university teaching awards while at Kent State University.

Dr. Tietz is a Certified Public Accountant, a Certified Management Accountant, and a Chartered Global Management Accountant. She also holds the SASB credential in Fundamentals of Sustainability Accounting. She is a member of the American Accounting Association (AAA), the Institute of Management Accountants and the American Institute of Certified Public Accountants. She is a member of the AAA’s Management Accounting Section as well as the Teaching, Learning and Curriculum Section. She has published in *Strategic Finance*, *IMA Educational Case Journal*, *Issues in Accounting Education*, *Accounting Education: An International Journal*, and *Journal of Accounting & Public Policy*. She regularly presents at AAA regional and national meetings.

Dr. Tietz authors a blog, Accounting in the Headlines, which has real-world news stories and resources for use in the introductory accounting classroom. Dr. Tietz was awarded the Bea Sanders/AICPA Teaching Innovation Award for her blog in 2014 and the Jim Bulloch/IMA Award for Innovations in Management Accounting Education in 2016. She was also awarded the Best Educational/Case Award for the Teaching, Learning and Curriculum Section (AAA, Ohio Region) in 2016. She also was awarded Honorable Mention for the Bea Sanders/AICPA Teaching Innovation Award in 2018 and in 2019 for cases she co-wrote on data analytics projects in introductory accounting.

Dr. Tietz earned her Ph.D. from Kent State University. She received both her M.B.A. and B.S.A. from the University of Akron. She worked in industry for several years, both as a controller for a financial institution and as the operations manager and controller for a recycled plastics manufacturer.

Dr. Tietz and her husband, Russ, have two grown sons. In her spare time, she enjoys walking, reading, and spending time with family and friends. She is also intensely interested in using technology in education.

To my husband, Russ, who steadfastly and enthusiastically supports every new project.

Wendy M. Tietz



# ACKNOWLEDGMENTS



We'd like to extend a special thank-you to our reviewers who took the time to help us develop teaching and learning tools for Managerial Accounting courses to come. We value and appreciate their commitment, dedication, and passion for their students and the classroom:

## Managerial Accounting, 6e, and prior editions

*Arinola Adebayo*, University of South Carolina Aiken; *Nasrollah Abadiat*, California State Polytechnic University; *Markus Ahrens*, St. Louis Community College; *Dave Alldredge*, Salt Lake Community College; *Natalie Allen*, Texas A&M University; *Vern Allen*, Central Florida Community College; *Lynn Almond*, Virginia Tech; *Felix E. Amenkbianan*, Radford University; *Arnold I. Barkman*, Texas Christian University; *Gary Barnett*, Salt Lake Community College; *Christopher Becker*, Coastal Carolina University; *Cassandra Bennett*, Bloomsburg University; *Scott Berube*, University of New Hampshire; *Michael T. Blackwell*, West Liberty State College; *Phillip A. Blanchard*, The University of Arizona; *Charles Blumer*, St. Charles Community College; *Kevin Bosner*, SUNY Genesco; *Anna Bouliware*, St. Charles Community College; *Ann K. Brooks*, University of New Mexico; *Molly Brown*, James Madison University; *Nina E. Brown*, Tarrant County College; *Helen Brubeck*, San Jose State University; *Janet B. Butler*, Texas State University–San Marcos; *Jennifer Cainas*, University of South Florida; *David Centers*, Grand Valley State University; *Sandra Cereola*, James Madison University; *Mike Chatham*, Radford University; *Julie Chenier*, Louisiana State University; *Robert Clarke*, Brigham Young University–Idaho; *Thomas Clevenger*, Washburn University; *Jay Cohen*, Oakton Community College; *Cheryl Copeland*, California State University Fresno; *Robert Cornell*, Oklahoma State University; *Deb Cosgrove*, University of Nebraska at Lincoln; *Patrick Cunningham*, Dawson Community College; *Alan B. Czyzewski*, Indiana State University; *Kreag Danvers*, Clarion University; *David L. Davis*, Tallahassee Community College; *Mike Deschamps*, MiraCosta College; *Patricia A. Doherty*, Boston University School of Management; *Jimmy Dong*, Sacramento City College; *Kevin Dooley*, Kapiolani Community College; *Jan Duffy*, Iowa State University; *Barbara Durham*, University of Central Florida; *Lisa Dutchik*, Kirkwood Community College; *Darlene K. Edwards*, Bellingham Technical College; *Robert S. Ellison*, Texas State University–San Marcos; *Anita Ellzey*, Harford Community College; *Gene B. Elrod*, The University of North Texas; *Jame M. Emig*, Villanova University; *Martin Epstei*, Central New Mexico Community College; *Diane Eure*, Texas State University; *Robert Everett*, Lewis & Clark Community College; *Dr. Kurt Fanning*, Grand Valley State University; *Amanda Farmer*, University of Georgia; *Janice Fergusson*, University of South Carolina; *Richard Filler*, Franklin University; *Jean Fornasieri*, Bergen Community College; *Ben Foster*, University of Louisville; *Faith Fugate*, University of Nevada, Reno; *Mary Anne Gaffney*, Temple University; *Karen Geiger*, Arizona State University; *Lisa Gillespie*, Loyola University–Chicago; *Shirley Glass*, Macomb Community College; *Marina Grau*, Houston Community College; *Timothy Griffin*, Hillsborough Community College; *Michael R. Hammond*, Missouri State University; *Michael R. Hammond*, Missouri State University; *Alexandra Hampshire*, Texas State University; *Fei Han*, Robert Morris University; *Sheila Handy*, East Stroudsburg University; *Christopher Harper*, Grand Valley State University; *Sueann Hely*, West Kentucky Community

& Technical College; *Pamela Hopcroft*, Florida State College at Jacksonville; *Audrey S. Hunter*, Broward College; *Frank Ilett*, Boise State University; *Christopher Jacobsen*, University of Massachusetts Dartmouth; *Ron Jastrzebski*, Penn State University–Berks; *Catherine Jeppson*, California State University, Northridge; *Janet Jones*, University of Minnesota–Duluth; *Nancy Jones*, California State University–Chico; *Mark T. Judd*, University of San Diego; *David Juriga*, St. Louis Community College; *Thomas Kam*, Hawaii Pacific University; *Ken Koerber*, Bucks County Community College; *Emil Koren*, Saint Leo University; *Ron Lazer*, University of Houston–Bauer College; *Pamela Legner*, College of DuPage; *Elliott Levy*, Bentley University; *Harold T. Little*, Western Kentucky University; *William Lloyd*, Lock Haven University; *D. Jordan Lowe*, Arizona State University, West Campus; *Lois S. Mahoney*, Eastern Michigan University; *Diane Marker*, University of Toledo; *Linda Marquis*, Northern Kentucky University; *Lizbeth Matz*, University of Pittsburgh at Bradford; *David Mautz*, University of North Carolina–Wilmington; *Florence McGovern*, Bergen Community College; *Noel McKeon*, Florida State College at Jacksonville; *Kate McNeil*, Johnson County Community College; *Mallory McWilliams*, San Jose State University; *Robert Meyer*, Parkland College; *Michael Newman*, University of Houston; *Kitty O'Donnell*, Onondaga Community College; *Mehmet Ozbilgin*, Baruch College, City University of New York; *Abbie Gail Parham*, Georgia Southern University; *Glenn Pate*, Palm Beach Community College; *Paige Paulsen*, Salt Lake Community College; *Deborah Pavelka*, Roosevelt University; *Sheldon Peng*, Washburn University; *Tamara Phelan*, Northern Illinois University; *Letitia Pleis*, Metropolitan State College of Denver; *Cindy Powell*, Southern Nazarene University; *Will Quilliam*, Florida Southern College; *Rama Ramamurthy*, Georgetown University; *Paulette A. Ratliff-Miller*, Grand Valley State University; *Donald Reynolds*, Calvin College; *Christina M. Ritsema*, University of Northern Colorado; *Doug Roberts*, Appalachian State University; *Amal Said*, University of Toledo; *Anwar Salimi*, California State Polytechnic University; *Kathryn Savage*, Northern Arizona University; *Christine Schalow*, California State University–San Bernardino; *Tony Scott*, Norwalk Community College; *Lloyd Seaton*, University of Northern Colorado; *David Skougstad*, Metropolitan State College of Denver; *John Stancil*, Florida Southern College; *Jenny Staskey*, Northern Arizona University; *Dennis Stovall*, Grand Valley State University; *Olin Scott Stovall*, Abilene Christian University; *Gloria Stuart*, Georgia Southern University; *Iris Stuart*, California State University, Fullerton; *Gracelyn V. Stuart-Tuggle*, Palm Beach State College, Boca Raton; *Jan Sweeney*, Baruch College, City University of New York; *Pavani Tallapally*, Slippery Rock University; *Lloyd Tanlu*, University of Washington; *Diane Tanner*, University of North Florida; *Linda Hayden Tarrago*, Hillsborough Community College; *Steven Thoede*, Texas State University; *Geoffrey Tickell*, Indiana University of Pennsylvania; *Don Tripper*, SUNY Oneonta; *Igor Vaysman*, Baruch College; *John Virchick*, Chapman University; *Terri Walsh*, Seminole State; *Andy Williams*, Edmonds Community College; *Jeff Wong*, University of Nevada Reno; *Michael Yampuler*, University of Houston (Main Campus); *Jeff Jiewei Yu*, Southern Methodist University; *Judith Zander*, Grossmont College; *James Zeigler*, Bowling Green State University



# **MANAGERIAL ACCOUNTING**



Picture/Alamy Stock Photo

Sources: Starbucks 2019 10-K filing [www.starbucks.com/about-us/company-information/starbucks-company-timeline](http://www.starbucks.com/about-us/company-information/starbucks-company-timeline); [starbucks.com/responsibility](http://starbucks.com/responsibility).

# Introduction to Managerial Accounting

## Learning Objectives

- 1 Identify managers' three primary responsibilities
- 2 Distinguish financial accounting from managerial accounting
- 3 Describe the roles and skills required of management accountants within the organization
- 4 Describe the role of the Institute of Management Accountants (IMA) and apply its ethical standards
- 5 Discuss the business trends and regulations affecting management accounting
- 6 Describe foundational concepts in data analytics
- 7 Describe fundamental Excel features and perform basic Excel operations

**Starbucks Corporation**, which began operations in 1971 as a sole coffee bean shop in Seattle's well-known Pike Street Market, now has over 31,200 company-owned and licensed stores in 81 markets around the world. The company's success can be attributed to innovative thinking, carefully disciplined expansion, and a focus on corporate responsibility. The company believes that its commitment to ethically sourced coffee, contributions to local communities, and superior employee benefits to part-time as well as full-time employees contribute to the company's objective of being one of the most recognized and respected brands in the world. Management accounting plays a role in implementing the company's strategy. Without information on the costs and benefits of different beverages, programs, distribution channels, and geographic areas, Starbucks would not be able to make responsible yet profitable decisions. Starbucks uses management accounting to make operating decisions that focus on corporate responsibility while also keeping the company financially strong.

As the Starbucks story shows, managers use accounting information for much more than preparing annual financial statements. They use managerial accounting information to guide their actions and decisions. For Starbucks, these decisions might include opening new stores, adding new products, or even providing new employee benefits, such as Starbucks's tuition reimbursement plan. Management accounting information helps management decide whether any or all of these actions will help accomplish the company's ultimate goals. In this chapter, we'll introduce managerial accounting, describe how it differs from financial accounting, and discuss the skills and ethics management accountants need. We will also discuss the regulatory and business environment in which today's managers and management accountants operate.

## What Is Managerial Accounting?

Managerial accounting, also referred to as management accounting, focuses on the financial insight needed for an organization to achieve success. In the words of the Institute of Management Accountants,

***Management accounting** is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy.<sup>1</sup>*

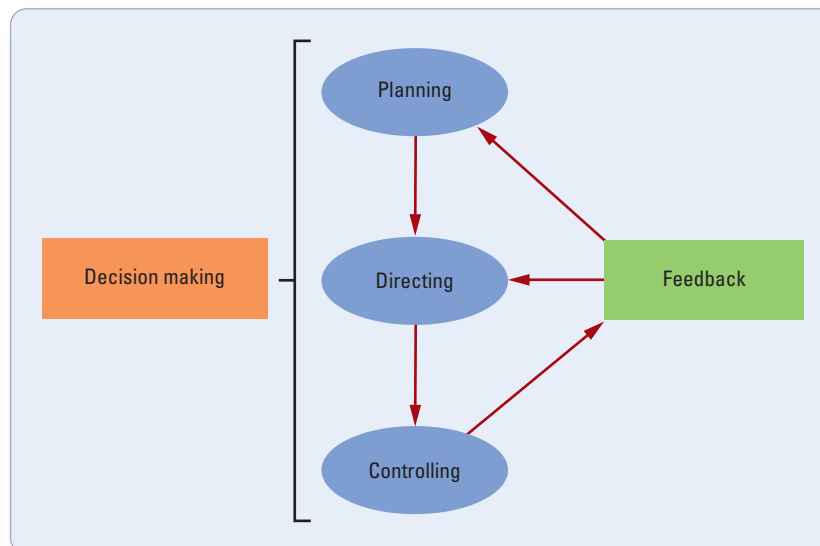
As you will see throughout the book, managerial accounting is very different from financial accounting. Financial accounting focuses on providing stockholders and creditors with the information they need to make investment and lending decisions. This information takes the form of financial statements: the balance sheet, income statement, statement of shareholders' equity, and statement of cash flows. On the other hand, managerial accounting focuses on identifying, interpreting, analyzing, and implementing the financial information internal management needs to run the company efficiently, effectively, and profitably. This information takes many forms depending on management's needs.

To understand the kind of information managers need, let's first look at their primary responsibilities.

### Managers' Three Primary Responsibilities

Managerial accounting helps managers fulfill their three primary responsibilities, as shown in Exhibit 1-1: planning, directing, and controlling. Integrated throughout these responsibilities is **decision making** (identifying alternative courses of action and choosing among them).

**EXHIBIT 1-1** Managers' Three Primary Responsibilities



**1** Identify managers' three primary responsibilities

<sup>1</sup> Statement on Management Accounting, "Definition of Management Accounting," Institute of Management Accountants, 2008.

- **Planning** involves setting goals and objectives for the company and determining how to achieve them. For example, one of Starbucks's goals is to generate more sales. One strategy to achieve this goal is to open more retail locations. For example, the company opened 1,270 new company-operated stores in fiscal 2019, roughly half in the United States and half in China and the Asia-Pacific.<sup>2</sup> Another strategy is to develop new products and new distribution channels (such as selling coffee through grocery stores and warehouse clubs). Managerial accounting translates these plans into **budgets**—the quantitative expression of a plan. Management analyzes the budgets before proceeding to determine whether its expansion plans make financial sense.
- **Directing** means overseeing the company's day-to-day operations. Management uses sales and costs information by store, region, and distribution channel, to run daily business operations. For example, Starbucks managers use sales data to determine which beverages on the menu and products in the stores are generating the most sales. They use that information to adjust product offerings, marketing strategies, and retail expansion decisions.
- **Controlling** means evaluating the results of business operations against the plan and making adjustments to keep the company pressing toward its goals. Starbucks uses performance reports to compare each store's actual performance against the budget and then based on that feedback take corrective actions if needed. If actual costs are higher than planned, or actual sales are lower than planned, then management may revise its plans or adjust operations.

Management is continually making decisions while it plans, directs, and controls operations. Starbucks management must decide where to open new stores, which stores to refurbish, what prices to set for beverages and other products in the store, and so forth. Managerial accounting provides the financial insight needed to help make these decisions.

## A Road Map: How Managerial Accounting Fits In

This book will show you how managerial accounting helps managers fulfill their responsibilities. The rest of the text is organized around the following themes:

1. **Managerial Accounting Building Blocks** Chapter 1 helps you understand more about the management accounting profession and today's business environment. Chapter 2 teaches you some of the language that is commonly used in managerial accounting. Just as musicians must know the notes to the musical scale, management accountants *and* managers must have a common understanding of these terms to communicate effectively with one another.
2. **Determining Unit Cost (Product Costing)** To run a business profitably, managers must be able to identify the costs associated with manufacturing its products or delivering its services. For example, Starbucks's managers need to know the cost of producing each beverage on the menu as well as the cost of operating each retail location. Managers must have this information so that they can set prices high enough to cover costs and generate an adequate profit. Chapters 3, 4, and 5 show you how businesses determine these costs. Chapter 4 also shows how managers can effectively control costs by eliminating wasteful activities and focusing on quality.
3. **Making Decisions** Before Harold Schultz opened the first Starbucks coffee house, he must have thought about the volume of sales needed just to break even—that is, just to cover costs. In order to do so, he had to first identify and estimate the types of costs the coffee house would incur as well as the profit that would be generated on each beverage served. These topics are covered in Chapters 6 and 7. Chapter 6 shows how managers identify different types of cost behavior, while Chapter 7 shows how managers determine the profitability of each unit sold as well as the company's breakeven point. Chapter 8 continues to use cost behavior information to

<sup>2</sup> Starbucks 2019 10-K filing.

walk through common business decisions, such as outsourcing and pricing decisions. Finally, Chapter 12 shows how managers decide whether to invest in new equipment, new projects, or new locations.

4. **Planning** Budgets are management's primary tool for expressing its plans. Chapter 9 discusses all of the components of the master budget and the way companies like Starbucks use the budgeting process to implement their business goals and strategies.
5. **Controlling and Evaluating** Management uses many different performance evaluation tools to determine whether individual segments of the business are reaching company goals. Chapters 10 and 11 describe these tools in detail. Chapters 13 and 14 describe how the statement of cash flows and financial statement analysis can be used to evaluate the performance of the company as a whole. Finally, Chapter 15 discusses how companies are beginning to address the sustainability of their operations, by measuring, reporting, and minimizing the negative impact of their operations on people and the environment. As you saw in the opening story, some of Starbucks's primary business concerns are to use ethically sourced coffee, contribute to local communities, and provide superior employee benefits to part-time as well as full-time employees.

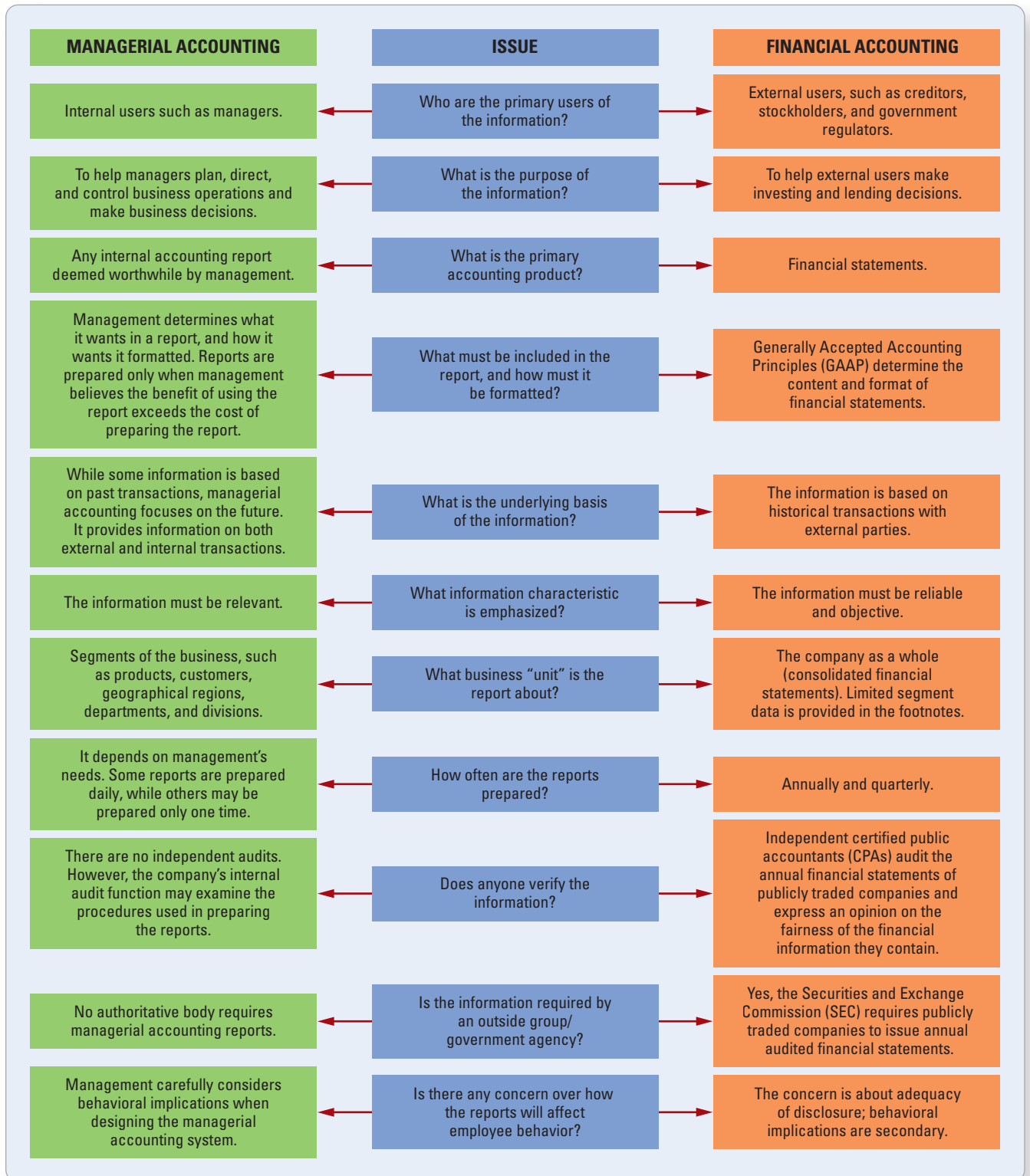
## Differences Between Managerial Accounting and Financial Accounting

Managerial accounting information differs from financial accounting information in many respects. Exhibit 1-2 summarizes these differences. Take a few minutes to study the exhibit (on page 5), and then we'll apply it to Starbucks.

Starbucks's *financial accounting* system is geared toward producing annual and quarterly consolidated financial statements that will be used by investors and creditors to make investment and lending decisions. Since Starbucks is a publicly traded company, its financial statements can be easily found on the Internet by searching for its 10-K (annual) and 10-Q (quarterly) SEC filings. The financial statements, which must be prepared in accordance with Generally Accepted Accounting Principles (GAAP), objectively summarize the transactions that occurred between Starbucks and external parties during the previous period. The Securities and Exchange Commission (SEC) requires that the annual financial statements of publicly traded companies, such as Starbucks, be audited by independent certified public accountants (CPAs). Starbucks's financial statements are useful to its investors and creditors, but they do not provide management with enough information to run the company effectively.

Starbucks's *managerial accounting* system is designed to provide internal managers with the accounting information needed to plan, direct, and control operations. Since managerial accounting information is specifically designed to help *internal* management, it is confidential information that is generally *not* available to the public. There are no GAAP-type standards or audits required for managerial accounting. To provide Starbucks's management with the information needed to make good business decisions, managerial accounting reports focus on smaller segments of the company (such as individual retail locations, geographic areas, and specific beverages and products) rather than the company as a whole. Rather than preparing reports just once a year, Starbucks prepares managerial accounting reports as often as needed, which could be as frequently as daily or even hourly. Many companies even use "real-time performance dashboards" that constantly update so that managers have the financial information they need to control operations and make timely decisions. Since managerial accounting revolves around planning and decision making, much of it focuses on the *future* rather than on the past. Any information that is *relevant* to management will be included. Finally, since every company is different, managerial accounting systems will vary from company to company. In designing the system, management will

**2** Distinguish financial accounting from managerial accounting

**EXHIBIT 1-2** Managerial Accounting Versus Financial Accounting

weigh the costs of collecting and analyzing information with the benefits they expect to receive. Management will also consider how the system will affect employees' behavior. Employees try to perform well on the parts of their jobs that the accounting system measures and rewards.

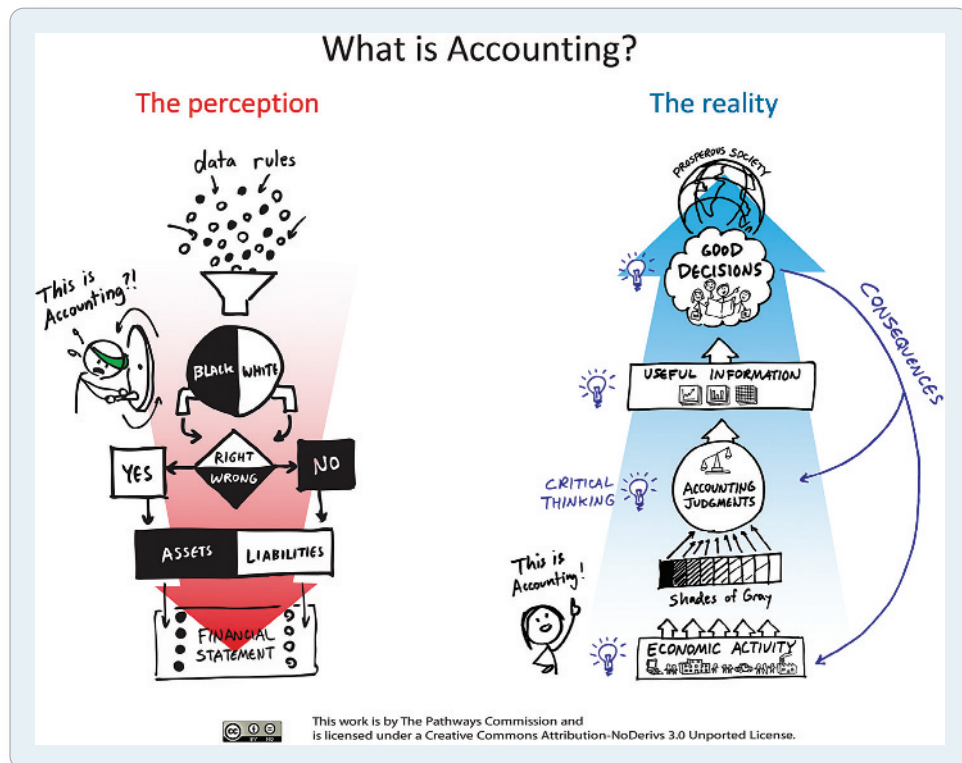
## What Role Do Management Accountants Play?

In this section, we'll look at the role of management accountants within the organization and the skills they need to help their organizations succeed.

### The Role of Management Accountants

When you think of accountants, what do you picture? Many people picture accountants the way they were 50 to 100 years ago, before the widespread use of computers when everything about measuring business transactions was relatively simplistic. As shown on the left in Exhibit 1-3, many people have the erroneous conception that accountants are nothing more than “bean counters,” plugging numbers into set formulas and using a black and white set of rules to churn out information for others to use. If this were true, being an accountant would be tedious and noncreative work indeed. Thankfully, nothing could be further from the truth.

**EXHIBIT 1-3** The Perception and the Reality



Source: © American Accounting Association. Used with permission.

As shown on the right in Exhibit 1-3, today's accountants are professionals who use an immense amount of critical thinking, insight, and judgment to capture the reality of today's complex economic events. As valued financial advisors, managerial accountants partner with management to make critical business decisions that have widespread and significant consequences for the business and for society. Let's face it: the business world is much more complex than it was in your grandparents' day. With rapidly changing technology and continual business innovation, the role of accountants has drastically changed from what it used to be. In fact, management accountants are rarely referred to by that name any more; instead, they are usually referred to as business advisors, analysts, or finance professionals.

As you go through each topic in this book, keep the blue picture in Exhibit 1-3 in mind, and ask yourself the following questions:

1. **What is the business issue, event, or problem, and how can accounting help to solve it?** Management accounting always begins with some relevant business issue that management is facing or some economic event that occurred in the past or might occur

3 Describe the roles and skills required of management accountants within the organization

in the future. Management accounting is used to shed light on the issue and direct management's path.

2. **What are the "gray areas"?** In other words, what differences in methods, assumptions, estimates, measurement choices, and judgment calls might impact the information that is used for decision making? Because of the gray areas and judgment involved, accounting numbers are rarely as precise as they may seem.
3. **What are the implications for the business if the accounting information used in the decision is "wrong"?** Because of the gray areas, it's difficult to say that accounting information is ever "wrong." However, judgment in these gray areas could lead to financial estimates that are on the high side or on the low side. What are the consequences of numbers that are too high or too low? Would estimates that are "off" in one direction be worse than the other direction?

Since you are studying management accounting for the first time, the topics in the book may at first appear very straightforward and immutable. However, if you consider the three questions listed above, you'll begin to see the significance of the judgment calls that go into management accounting and the ramifications to the business decisions that are consequently made.

## The Skills Required of Management Accountants

To understand the skills required of management accountants, let's go back to the definition of management accounting with which we started the chapter:

*Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy.*<sup>3</sup>

First and foremost, management accounting is a profession. Since management accountants work in a professional advisory role, they need a vast array of technical and soft skills. Exhibit 1-4 summarizes some of these skills.<sup>4</sup>

**EXHIBIT 1-4** Technical and Nontechnical Competencies Needed by Management Accountants

Technical Competencies	Nontechnical Competencies
<ul style="list-style-type: none"> <li>• Planning, budgeting, and forecasting</li> <li>• Internal financial reporting</li> <li>• Performance measurement</li> <li>• Cost management</li> <li>• Internal controls</li> <li>• Technology and data analytics</li> <li>• Decision analysis</li> <li>• Financial statement analysis</li> <li>• Capital investment decisions</li> <li>• Risk management</li> <li>• Tax planning and compliance</li> <li>• Corporate finance</li> </ul>	<ul style="list-style-type: none"> <li>• Ethics</li> <li>• Communication</li> <li>• Customer service</li> <li>• Adaptability</li> <li>• Strategic and critical thinking</li> <li>• Process improvement</li> <li>• Leadership</li> <li>• Collaboration and teamwork</li> <li>• Business acumen</li> <li>• Change and conflict management</li> <li>• Professionalism</li> <li>• Project management</li> </ul>

<sup>3</sup> Statement on Management Accounting, "Definition of Management Accounting," Institute of Management Accountants, 2008.

<sup>4</sup> IMA Management Accounting Competency Framework, Institute of Management Accountants, 2019; and "The Skills Gap in Entry-level Management Accounting and Finance," Institute of Management Accountants and American Quality and Productivity Center, 2014.



This book will introduce you to most of the technical competencies listed in Exhibit 1-4. As you can see in the exhibit, the ability to use technology such as Microsoft Excel, is critical. Because Excel is used so pervasively in business, you will see many of the exhibits in this book featured in Excel. You will also see learning objectives in all chapters that teach you how to use Excel to perform various types of data analysis. Regardless of your future career path, becoming as proficient as you can with Excel will help you become more marketable and more valuable to your future employer.

## Managerial Accounting Is Important to All Careers

As you can see, management accountants don't fit the stereotypical accountant portrayed in movies and shows. Because of their expanding role, management accountants have truly become trusted and valued internal business advisors. But what if you don't plan to major in accounting? How can this course be of use to you? Here are just a few specific ways this course can help you prepare for your future business career:

- **Entrepreneurs** If you are planning to be an entrepreneur, you'll first want to know if your business idea makes financial sense. How high will volume have to be for your business to at least break even? How high will it have to be for your business to earn the level of profit that you want to achieve? As you begin to implement your business plan, should you negotiate sales contracts that are more fixed (flat fee) or variable (fee per activity)? What about costs? Would having more fixed costs or variable costs be better? How sensitive will your profits be to changes in volume if the economy booms or if it takes a turn for the worse? How will you decide whether to invest in new equipment and technology? As your business grows in size, how will you divide it into manageable segments and relinquish oversight of day-to-day operations to others, while at the same time retain control? How can you design systems to ensure your managers will make decisions that are consistent with your goals? And if you decide to raise capital or sell your business, what will potential investors want to see when they analyze your financial statements and study your statement of cash flows? All of these topics are addressed in this book.
- **Business Management** If you are planning to be a general business manager, not a day will go by in which you don't consider the financial ramifications of your decisions. You'll need to have a firm grasp on the costs of obtaining or manufacturing every product you sell and/or every service you deliver. You'll also want to understand how costly every activity within the company is to perform and have specific strategies in hand for controlling and reducing those costs. You'll need to understand which costs will increase as your volume increases and which costs will be unaffected by changes in volume. Cost information will drive many, if not all, of your decisions about where to locate, what to produce, which suppliers to use, whether to outsource, which products to emphasize, whether to implement quality improvement initiatives, whether to automate some of your processes, how to price your products or bid for jobs, whether to discontinue certain products or operations, and so forth. Every business decision you make will be rooted in revenue and cost information, so it will be important for you to understand how those costs were obtained and what they include. Different costs will be used for different purposes. All of these topics are addressed in this book.
- **Marketing and Sales** If you are planning to be in marketing and sales, your marketing strategy, assumptions, and predictions will be the driving force behind the company's entire budget. As a result, you will be intimately involved with developing the budget. Product-line profitability reports will show you which products are most profitable and will guide your decisions about which products to emphasize. Cost information will drive many of your pricing decisions, as well as decisions about whether to accept special orders at reduced sales prices or give volume discounts. The company's stance on sustainability may impact your ability to attract various customers and target different markets. All of these topics are addressed in this book.

- Nonbusiness Majors** Even if you are planning to be a nurse, engineer, musician, or fashion designer, the information you learn in this course will be of consequence to you. All organizations, including nonprofits and governmental agencies, use cost and revenue information to guide their plans, actions, and decisions. No matter what your career path, every activity you engage in will impact the costs and revenues of your organization. That holds true, whether you are tending to sick patients, designing bridges, managing a symphony orchestra, or designing clothes. Management will expect you to operate under limited resources and will often look to you for revenue and expense estimates for specific projects or for specific periods of time. Management may also hand you budgets, cost data, and performance reports and expect you to understand it and use it for making decisions. The more you understand the underlying financial information, the better prepared you will be.

We've chosen to highlight just a few specific business career tracks here, but many of the same issues will pertain to all business careers, including those in logistics, supply chain management, production, and finance. There is such a huge overlap in business between managerial accounting and finance that both are often referred to as the "finance function," and the people who work in this function, regardless of whether they were accounting or finance majors, are often referred to as analysts. No matter what your eventual career, you will be using managerial accounting information. As is often said, accounting is the language of business, so the more you know about it, the more valuable you will be to your organization.

## Accounting within the Organizational Structure

Most corporations are too large to be governed directly by their stockholders. Therefore, stockholders elect a **board of directors** to oversee the company. Exhibit 1-5 shows a typical organizational structure, with the green boxes representing employees of the firm and the orange and blue boxes representing nonemployees.

The board members meet only periodically, so they hire a **chief executive officer (CEO)** to manage the company on a daily basis. The CEO hires other executives to run various aspects of the organization, including the **chief operating officer (COO)** and the **chief financial officer (CFO)**. The COO is responsible for the company's operations, such as research and

**EXHIBIT 1-5** Typical Organizational Structure

